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Public Health Reports

Treasury Department, United States Marine-Hospital Service. Published in accordance with act of Congress approved February 15, 1893.

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UNITED STATES.

Assignment of medical officers of the Marine-Hospital Service to duty in Cuba and Porto Rico.

By authority of Executive order of January 17, 1899, published by the Adjutant-General of the Army January 20, the following details have been made by the Secretary of the Treasury:

CUBA.

Carter, H. R., Surgeon.—January 28, as inspector of all Cuban ports excepts those in the province of Santiago for the purpose of making recommendations for perfecting the quarantine service.

Rosenau, M. J., Passed Assistant Surgeon.—January 31, as quarantine officer of the port of Santiago with instructions to inspect all other quarantines in the province of Santiago and make recommendations.

PORTO RICO.

Glennan, A. H., Surgeon.—February 1, as quarantine officer at the port of San Juan, Porto Rico.

Lavinder, C. H., Assistant Surgeon.—February 1, as quarantine officer at port of Ponce.

Value of vaccination.

A brochure published by the State health officer of Alabama is reprinted here in part, since it shows in a striking manner the value of vaccination. It supplements the information contained in the précis upon diagnosis and prevention of smallpox issued by this Bureau under

date of January 6. Both these publications are intended for general distribution, and State or local health officers who have difficulty in impressing upon the authorities or people of their respective localities the necessity of vaccination and other measures to prevent the spread of smallpox, and who desire to be supplied with these publications will be furnished with same on application to this Bureau.

Attention is called to the fact that, while the disease now generally prevailing is of a mild type, history shows that the strength of the infection increases with time, and, if proper precautions are not taken, in time the disease will, in all probability, become virulent.

Smallpox, like many other eruptive diseases, is self-protective; that is to say, one attack, with few exceptions, protects from a subsequent attack.

This is believed to be due to an impression upon or change in the vital fluids and tissues of the body, which renders them immune to the same morbid agent.

Upon this principle rests the theory of vaccination; that is, by vaccination an impression similar to, but milder than, that of smallpox is sought to be made upon the system, so as to protect it from an attack of that disease, or, if one should occur, to mitigate the danger and severity of it.

The virus used for vaccinating has been obtained from cows affected by cowpox. The close similarity, or complete identity, of this disease in the cow with smallpox in man has been established in many ways and at various times and places.

Jenner's discovery of the protective power of vaccination was based upon the observation that milkers who became inoculated with the virus of cowpox were not apt to take smallpox, or, if they did, that the severity of the disease was much modified thereby. Blankets used by patients with smallpox have been hung up in barns where cows were kept and cowpox produced, thus proving clearly that smallpox in man and cowpox in the cow are interchangeable diseases.

Formerly vaccination was practiced by introducing into the human system the virus of cowpox, and the effect produced was propagated from one person to another; that is to say, the virus originally taken from the cow was humanized. This practice was believed to be open to the danger of transmitting from person to person other constitutional diseases, and has been abandoned.

Now, bovine virus, or that taken directly from the cow, is used. Farms devoted to the production of this virus have become numerous, the proprietors of which, stimulated by competition, are striving to produce the purest and best article possible.

Before Jenner's great discovery of the protective power of vaccination smallpox was a frequent and fearful disease. What a scourge it was the following quotations, copied from one of the most elaborate and reliable encyclopedic works on medicine ever published, will show:

"For centuries prior to Jenner's discovery of vaccination, in 1798, smallpox had been regarded as the king of fatal diseases. M. de La Condamine says that smallpox was the cause of one-tenth of all the deaths among the human race. Half a million deaths were annually caused in Europe from smallpox prior to the discovery of vaccination. Macaulay says: 'Smallpox was always present, filling the churchyards

with corpses, leaving on those whose lives it spares the hideous traces of its power, turning the babe into a changeling at which the mother shuddered, and making the eyes and cheeks of the betrothed maiden objects of horror to her lover.'

"In the sixteenth century smallpox fell upon Mexico, and in a few years 3,500,000 of the population yielded up their lives to it, leaving in some places scarcely enough people alive to bury the dead.

"Brazil in 1653 was invaded by smallpox, and in some instances whole races of men were carried to their graves by it.

"The province of Quito in a few years lost 100,000 of her Indian population by this one disease. In 1707 smallpox invaded Iceland and caused the death of 18,000 out of a total population of 50,000. One-sixth part of the inhabitants of Ceylon died of smallpox during one epidemic. Whole tribes of our Indian population were swept out of existence by this disease. In 1734 nearly two-thirds of the population of Greenland was swept away by this disease. Europe, in the century preceding the discovery of vaccination, lost in deaths from smallpox 50,000,000 of her population.

"Enough has been presented to justify Macaulay in calling smallpox 'the most terrible of all the ministers of death.'

"This disease was no respecter of persons. Reaching to the royal throne of France it laid Louis XV in the grave. In Mexico it treated the emperor similarly. In England it invaded the household of William III, killed his wife Mary and several others of his family, and would not leave the palace until it had attacked the king, and maimed and disfigured him for life.

"Wernher says, in his recent work 'On the Vaccination Question : 'Before the introduction of vaccination smallpox had become a permanent disease, which never entirely ceased in one year, and in every three or five years became a great epidemic. In nonepidemic years one-tenth of all mortality was from smallpox ; in epidemic years one-half. Countless mortals who escaped death were maimed by loss of sight. Of newborn children, one-third died of smallpox before their first year ; one-half before their fifth year of life. In the country the mortality was greater than it was in the city.'

"Physicians and government possessed no means against this abominable evil.

"Isolation was impracticable from the general wide-spread nature of the disease. Men accepted the pest as an unavoidable fate. The loss which Europe suffered from this one disease amounted to many millions. It was a principal factor which deterred or kept the population from progress ; and to lead us back to these conditions the efforts of many ignorant mortals are directed."

Comparing the present conditions with those just stated the author goes on to say :

"We now find no child mortality from smallpox among vaccinated children. Also, among adults, whenever vaccination and revaccination are maintained, mortality from smallpox is at an end."

Dr. Jerome Cochran, deceased, one of the foremost and best sanitarians this country ever produced, and for more than twenty years the efficient health officer of this State, wrote as follows :

"The present generation can have, from its own observation, no adequate conception of the terrible devastation which this disease caused before the discovery of vaccination. In the large cities one-third of the deaths of children under ten years of age came from small-

pox. Not a decade passed in which this disease did not decimate the inhabitants in one country or another, or over great tracts of country; so that it became more dreaded than the plague.

"In a community or town well and thoroughly vaccinated there would be no possibility of a serious extension of smallpox. Neglect of this protection has, even in recent years, sometimes led to very disastrous and unprofitable results.

"Such a course in Philadelphia in the winter of 1871-72, cost the city many lives and paralyzed business to the extent of \$20,000,000. And such neglect of vaccination in Montreal, lately, imposed a heavy penalty on that city and its surrounding province, and at the same time seriously threatened all adjoining States."

Persons who know the exhaustive and unbiased way in which Dr. Cochran investigated subjects, and the logical methods he pursued in reaching conclusions, will accord great weight to the words just quoted from him. Quotations from medical and nonmedical authors might be continued at great length to show the horrors and fatality of this loathsome disease, but let us turn to a pleasanter phase of the subject and inquire whether there is any remedy. Happily there is, and Dr. Ketchum, of Mobile, a distinguished practitioner of fifty years experience, graphically describes it as follows:

"What the discovery of steam was to the mechanic arts, what the discovery of the printing press was to the world of letters, what the discovery of electricity was to progressive science, what the discovery of chloroform was to the surgeon's practice, such was the discovery of vaccination to the science of medicine and the cause of humanity."

Let us see what this great boon has done:

There died annually, from smallpox, to every million of inhabitants—

Localities.	Before vaccination.	After vaccination.
Sweden.....	2,050	158
Austria.....	3,095	841
Trieste.....	14,046	182
Moravia.....	5,402	255
Silesia (Austrian).....	5,812	198
Prussia (Eastern).....	3,321	56
Berlin.....	3,422	176
Copenhagen.....	3,128	286

In other words, the mortality from smallpox in Copenhagen, after the introduction of vaccination, was only one-eleventh of what it was before; in Berlin it was but one-twentieth; in Sweden, one-thirteenth.

In Boston in 1721, with a population of 11,000, there were 5,989 cases of smallpox, with 850 deaths; in 1730, with a population of 15,000, there were 4,000 cases of smallpox and 500 deaths.

After the introduction of vaccination there were in Boston from 1811 to 1830, with a greatly increased population, only 14 deaths from this disease, and from 1881 to 1887, only 18. That is to say, in two separate years before the introduction of vaccination, there were in Boston 1,350 deaths from smallpox, the population for those years being 11,000 and 15,000, respectively. After the introduction of vaccination, from 1811 to 1830, and from 1881 to 1887, two periods covering twenty-five years, and with a vastly increased population, there was a total of deaths from this disease of only 32.

The figures quoted show beyond dispute that vaccination diminishes to a marked degree, both the liability to, and the fatality from, small-

pox. Where, formerly, cases numbered into the thousands or hundreds of thousands they now occur by the hundreds or not at all. In Prussia, compulsory vaccination has brought the death rate from smallpox down as low as three-hundredths of 1 per cent, while in countries where vaccination is imperfectly practiced, or not at all, the disease still goes on disfiguring and killing the inhabitants. The statistics establishing this fact are unassailable, and are open to anyone who chooses to consult them. Could people who refuse vaccination be left to the consequences of their own folly they would incur a penalty that would in time make them wiser, but unfortunately they can not be so left. In bearing the consequences they inevitably inflict them upon others, and their right to do this should be circumscribed.

Some entertain the idea that compliance with hygienic rules is sufficient to furnish exemption from smallpox, but history and current facts abundantly disprove this position. The disease has made its way into some of the cleanest households of the country, and no amount of personal cleanliness will protect one from the poison should he come in contact with it.

W. H. SANDERS, M. D.,
State Health Officer.

MONTGOMERY, ALA., January 16, 1899.

[Reports to the Supervising Surgeon-General, United States Marine-Hospital Service.]

Sanitary reports from San Juan, Porto Rico.

SAN JUAN, PORTO RICO, January 23, 1899.

SIR: I have the honor to submit the following report in relation to the sanitary condition of Ponce, Porto Rico:

This city is situated upon the south side of the island, 2 miles from the seacoast, upon a level stretch of land, unlike the other coast towns. The port is connected with the city by a fair roadway, and has a population of about 1,500 people. The bay is simply an arm of the sea, an open roadstead, and affords little protection to vessels in case of storms.

Dr. M. Zeno Gandia, the port physician appointed by the military authorities, is absent upon several months' leave to the United States, and Dr. Pedro Maleret is acting as temporary boarding officer. He practices his profession in an interior town, does not speak English, and is not familiar with the port records or inspection work. In conversation with Col. F. A. Hill, volunteers, the military collector of customs, and Col. D. W. Burke, of the Regular Army, in command of the district, whom I knew upon the Pacific Coast, both these gentlemen recognized the necessity for the supervision of the port inspection by an officer of this Service. I therefore cabled you to-day for the detail of an officer for this purpose.

No provision is made at this port for the treatment of infected vessels, crews, or passengers. Two miles out from the dock the Isla Cardones is situated, a small rocky point upon which a light house is located. Here tents were pitched upon several occasions for the care of a few cases of smallpox. The small Isla Ratones lies 4 miles in a southwesterly direction, and the Isla Muertos, which might be suitable for a quarantine site, 6 miles to the southeast.

The streets of Ponce are about 40 feet wide, unpaved, the town site well spread out, surrounded by an agricultural country, and containing a number of sugar-cane mills.